VOL. XV DECEMBER, 1908 No. 3

The Agricultural Student

A Monthly Magazine

DEVOTED TO AGRICULTURAL EDUCATION

10 cents per copy 50 cents per year

CONTENTS.

December, 1908.

Published Monthly by

THE AGRICULTURAL SOCIETY

of Ohio State University

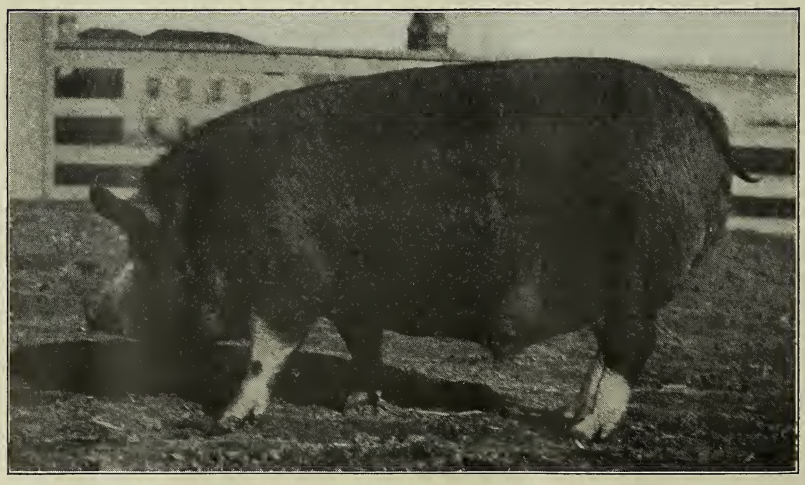
Advertising Rates on Application. Address all Correspondence to the Business Manager.

Terms of Subscription:

One Year.....$0 50
One-half Year..... 30
Single Copies..... 10

Entered at the Post-Office, Columbus, Ohio, as second-class matter

POLAND CHINA SOW



CROSS-BRED BARROW No. 91

THE AGRICULTURAL STUDENT.

VOL. XV OHIO STATE UNIVERSITY, COLUMBUS, DECEMBER, 1908 No. 3

DEVELOPMENT OF THE POLAND CHINA HOG

D. C. Mote, '10

Ohio is proud of her many great men, her many presidents, her many great institutions; but she also takes much pride in being the originator of the greatest pork-producing hog in the country. Taking the entire form into consideration, no breed shows such compactness and great meat-producing capacity on such short legs as does the Poland China. This breed of hogs originated in the fertile Miami Valley of Southwestern Ohio. This valley is a great producer of corn, the small grains, and clover. The climate is fairly temperate, the topography of the region is rolling and is underlaid with a prevailing clay loam, excepting in the river bottom; and Cincinnati with its many pork-packing establishments, giving it in the 50's the name of Porkopolis, in close proximity. These combinations made an excellent region for the development of the lard hog.

The swine of Miami Valley at the time of early settlement of the state were of various types, but all were of the large, coarse, strong-boned, slow-maturing kind. Previous to 1815 the Russian and Byfield breeds were known in this region. The Russian pig was generally white with long coarse hair, a long and coarse head. The breed possessed superior length and depth; the bone was large and fine and the pigs stood well on their feet. The Byfield was white with fine curly hair, compact and moderate in size and length, possessing a broad back and lopped ears. The breed in fifteen months attained a dressing weight of from 300 to 350 pounds. These were generaly bred and their blood mingled with the common pigs of the community.

In 1816, John Wallace, a trustee of the Shakers' Society of Union Village, Butler County, brought from Philadelphia one boar and three sows known as the Big China breed. The boar and two sows were white, while the other sow had some sandy spots in which were small black spots. This was a medium-sized breed of unknown ancestry, of fine form, small head and ears, short legs, fine bone and superior feeding qualities. John Mahard, a packer and importer of hogs and cattle of that time, says, "The use of the Big China on the Russian and Byfield crosses in the hands of judicious breeders produced a very excellent hog"; this crossing resulted in what is widely known as the Warren County hog.

The Berkshire breed found their way into Ohio about 1836. Mr. Munson Beach of Warren County was the first to introduce some specimens of this breed. Other lots continued to follow into Miami Valley until about 1841. The Berkshire's erect ears, symmetry

of form, and stylish appearance immediately met with favor among the breeders, and his blood was liberally introduced into the stock of Southwestern Ohio and Kentucky. Crossing with the Berkshire was almost exclusively done until about 1839, when William Neff of Cincinnati imported some choice specimens of the Irish Grazier. These were white, thinly-haired hogs, varying somewhat in size and type. They had erect ears, long bodies with superior backs, excellent legs and very fine hams. This breed soon grew into high favor, its blood being liberally mingled with the crosses previously made. This intermingling of the Berkshire and Irish Grazier on the Warren County hog is said by packers to have been a great improvement. So much so that the farmers soon woke up to the fact that they had the foundation stock of a very excellent breed.

The hog demanded at this time was one that would produce the most pork in the shortest time, upon the least feed, and still be able to walk to market. Railroads were not then, as now, everywhere to haul the hog; it must walk. This type the breeders, by judicious and discriminating selection and mating of the material at hand, set out to produce, and this type they have produced with the exception of a very refined bone and quite frequently weak pasterns. These imperfections are probably due to the color craze that swept over the Poland China world. Tendency and fashion soon favored the black hogs, especially among western buyers.

Shepard and Alexander had made friends for black hogs with Black Bess and other good ones of the Black Bess tribe. Breeders found their black pigs more salable than spotted ones of the same litter, although some of the latter might be better individuals. So after many generations of selection to meet the demands of fashion in color, we today find an exceedingly symmetrical hog of solid black color with white markings, preferably on the face, feet and tip of tail.

THE RELATIONS OF INDUSTRIAL ALCOHOL TO AGRICULTURE

B. W. Hendricks, '09

Alcohol was first distilled from wine by the Arabians. This was the only method known until about 860 A. D., when it was prepared from fermented malt. The Arabians used the alcohol distilled from wine as a medicine, and when the "black plague" was killing thousands of people in Europe alcohol was prescribed as a remedy.

There are three steps in the modern manufacture of alcohol, viz: (1) Preparation of mash, (2) fermentation of mash, (3) distillation.

The mash is prepared by grinding the grain and then mixing it with water in order to form a rather thin mixture. This mixture is often heated to boiling in order to obtain more uniformity than it would otherwise be possible to obtain. The temperature is then reduced to 140° F., and barley malt is added. The reason for adding the malt is that it contains an enzyme, which converts starch into maltose, a soluble sugar. This is a very necessary step in the process, for starch it-

self does not undergo alcoholic fermentation. This process goes even farther and converts the disaccharides into monosaccharides. This process requires from two to four days.

The fermentation is produced by a species of yeast. This fermentation is carried on at a temperature considerably below that at which the conversion of starch into soluble sugars is carried on. The mash is stirred often during the early part of the fermentation in order to get the yeast plants well distributed through the mash. This process is also due to the action of enzymes produced by the yeast plant.

The distillation consists of separating the alcohol produced by the yeast fermentation from the non-volatile part of the mash. The process is carried on in a "still." The still consists of a closed vessel, which is connected with a pipe or worm, which is surrounded by water. When the mash is heated in the vessel, the alcohol, with a few other volatile substances, pass into the pipe in the form of vapor and are condensed and collected in a receiver.

In the manufacture of industrial alcohol this process may be varied somewhat. The starch of the mash may be hydrolyzed by boiling it with dilute acids. Time is saved in this way, and the per cent. of alcohol obtained is as large or even larger. The acid does the same thing to the starch that is done by the enzyme of the malt.

Alcohol can be made from any material which contains fermentable sugars, as carbohydrates, which can be readily converted into fermentable sugars. In nearly all cases starch is the starting point. The source of starch is different in different countries. In Germany 81.5 per cent. of all the alcohol is made from potato starch, while in America much of the alcohol is made from the starch of ordinary corn.

Sugar produces about one-half its weight in alcohol under the most favorable conditions. Dr. Wiley gives the following figures:

100 grains of sugar gave—

	Grains.
Alcohol	51.10
Carbon dioxide	49.20
Glycerine	3.40
Organic acids (chiefly succinic)	0.65
Ethers, aldehydes, etc.	1:30
etc.	1.30
Total	103.65

There is a certain amount of oxygen taken up by the compounds from the air; hence the fermentation products are of greater weight than the original sugar. The process of denaturing alcohol varies in different countries, and even in different parts of countries. The same principle is kept in mind in all of them—that is, making the alcohol unsuitable for a beverage. The method adopted by the Division of Internal Revenue of the Department of the Interior consists in adding to the ordinary grain (ethyl) alcohol a quantity of wood (methyl) alcohol and a small amount of benzine. The wood alcohol renders the ordinary alcohol unfit for a beverage, and benzine, by its odor, makes it easy to detect denatured alcohol. Pyridine, eosin, fuchsin, and many other substances have been suggested as denaturing material, but have not been used to any extent. It will be readily seen that denaturing alcohol renders it unfit for certain commercial purposes, as the preparation of drugs and such work, where pure alcohol is required.

It was thought by some people engaged in agricultural pursuits that the repealing of the tax from denaturized alcohol would produce almost revolutionary changes for the improvement of farm conditions. Some imagined that a farmer might set up a small still and make his own fuel and light. There are several reasons why this is not possible. (1) The farmer with a small still cannot compete with the large manufacturer. (2) All stills must be run under government inspection. (3) The process must be exactly as prescribed by the revenue officers.

There are certain benefits which will no doubt be derived from the duty free alcohol. They will, however, be only indirectly beneficial to the farmer. When large quantities of denatured alcohol are used in the arts and industries, there will necessarily be a higher demand for farm crops which are high in starch contents, such as corn and potatoes. There will also be large quantities of by-products of distillation which have a high percentage of nitrogen which will be taken back to the land to increase the fertility of the land after having served as a feeding stuff for cattle. Alcohol is being used to some extent as fuel and light at the present day, but what is being done along this line now is very insignificant when compared with what will be used in the future. Our forests are rapidly passing away, and geologists say that the visible supply of coal will have been entirely exhausted before two centuries have passed, so that alcohol may be the fuel of the future.

Alcohol has about 0.6 the fuel value of gasoline, but at the present time gasoline is cheaper than alcohol, so it is not hardly economical to use alcohol at present under ordinary conditions. Alcohol can be used as a fuel in nearly the same way as gasoline. Any of the gasoline engines on the market can be run by means of alcohol. There is, however, some extra loss in some of them, because all of the alcohol is not vaporized.

For illuminating purposes alcohol is used with an ordinary gas mantle and gives a light equal to gas. One great advantage that alcohol has over kerosene and gasolene is that it is cleaner and free from offensive odors.

In conclusion we can say that while the immediate effect of the law providing for duty free alcohol was not what many thought it would be, it is bound to give good results in the end. The making of alcohol will probably always be in the hands of manufacturers; yet the farmers will be benefited by the increased demand for certain crops. It may be of aid to the farmer at present if he lives far from the source of oil and gas, for he may use alcohol as an illuminant, at least. The great day for duty free alcohol is not yet. As the fuel problem becomes more and more serious alcohol will rise in importance.

Students Judging in the New Judging Pavilion. Note the large hanging doors which can be drawn across, dividing the pavilion into sections for different classes

SHEEP RANCHING IN THE WESTERN STATES

C. E. Snyder, '09

The proper time for lambing in the western states varies with the climatic and feeding conditions. It is not desirable to have the lambs come before the grass starts in the spring for the reason that without green grass the ewes might not give sufficient milk for the rapid and vigorous development of the lambs. The possibility of cold rains and late snows must be taken into consideration in determining this matter. The actual time of year varies with the latitude, being much earlier in Texas than in Montana. In the latter place the lambing season generally begins the middle of May. An earlier date is very often unsafe.

At lambing time a large number of extra men must be hired, as the bands of ewes must be divided into small flocks as soon as the lambs have been dropped. When the lambs begin to appear a night herder is placed with the flock to keep lambs that are dropped in the night from being trampled on by the ewes in the flock. The lamb as soon as dropped is placed with its mother in a very small pen until it is seen that it is strong and is "mothered."

During the daytime a lambing wagon follows each lambing flock and the young lambs and their mothers are placed in small apartments on either side of the wagon until the wagon is full, when they are hauled to the lambing pens.

It is necessary to keep the ewes in small flocks in order to see that all the lambs are owned by their mothers. Ewes separated from their lambs for twenty-four hours often forget the scent of their lambs and disown them. Such lambs become "bums" and must be taken to the pens and brought up on bottles, or allowed to die in the fields. Another reason is that if lambs are lost the ewe's udder becomes swollen and is often so seriously injured that the ewes will be unable in the future to store up milk.

When the lambs are about two weeks old the ewes are brought together again and bands of the usual size—2500 to 3000—are formed. The lambs are now ready for docking, castrating and marking. They are caught but once for these operations, which are carried on very rapidly by six or eight men. Various methods of marking are used. The greater number, however, are marked with paint.

The per cent of lambs raised varies greatly (from 50-100) in different cases. Twin lambs are not desired for the reason that the ewes in a large band will not be liable to hunt up more than one of the lambs, and the lost one will soon become a "bum." Then, too, most range ewes will not have sufficient milk to properly grow two lambs.

The time of shearing the ewes like that of lambing varies with climatic conditions. It is much earlier in the Southern States where the sheep are sheared twice a year, and is latest in Montana where shearing is done in June and well into July.

The shearing is done by professional men who shear during our winter months, in the Southern Hemisphere—in Argentina or Australia—and who begin the season on this continent in Texas and travel north. Because of their experience they shear with great rapidity, 90 to 120 sheep being an average day's work, and authenticated reports of 250 in one day are recorded.

Machines are being largely used now, their advantage over hand clipping being in a neater job, less cutting of the sheep and in obtaining heavier fleeces. There was, at first, considerable opposition to the machines, on the part of the hand shearers as they thought the machines would ruin their business, and on the part of sheep owners who feared that the wind and sun would injure the unprotected skin of the closely-shorn sheep. These objections have been found to be without foundation and are no longer given weight.

Wool is packed by being tramped into large sacks holding 300 to 400 pounds, and is then ready for market. Hauling to market is a very big proposition as the wool must, in many cases, be hauled great distances. This has led to the development of the business of wool freighting. Economy demands that very large loads shall be hauled and not infrequently wool freighting teams of 10 to 24 horses are seen.

Wool is not sorted on the ranch, except for black wool. This brings a much higher price than white wool when put upon the market separately. It is packed separate if the rancher has enough to make a sack full.

Sheep ranches are generally so located that the range can be divided into a winter and a summer range; the summer range being in the higher altitudes or in localities where there is a large rainfall. In the months of June, July and August the ewes need green food to make milk for the lambs, and the lambs need it to put on bone and muscle. So the places of greenest forage are selected for summer feeding.

The shepherds may travel on horseback carrying bedding and food with them, or they may establish camps, which are moved to new grounds as the surrounding pasture becomes poor. The sheep are corralled at night near the camp.

Dogs are absolutely necessary in driving the sheep, in announcing coyotes, and in keeping the sheep from stampeding when they are attacked at night.

The problem of securing water for sheep on the summer range is always an important one. The frequency with which a sheep must be watered varies according to the system of management and according to the nature of the forage plants.

In arizona and New Mexico, where, in the hot summer months, the sheep graze on succulent plants, they may go sixty days without water. The opposite extreme is found in Montana where some sheep owners water their sheep three times a day. In general no artificial arrangements are made to secure water. The sheep are simply driven to pools and streams.

Great differences are apparent in the practices of different sheepmen with regard to the use of salt. Some men regularly salt the sheep so that they have the salt accessible at all times. On the other hand, some sheep men never supply salt to the sheep, and claim that they can secure better results by allowing the sheep to find alkali licks than they can by giving them salt.

Many sheep men think that perhaps the development of the so-called "loco disease" may be in some way connected with eating alkali or drinking alkali water, and it is claimed by some that the extent of "loco disease" is diminished greatly by the use of salt. Except in cases where the alkali salts contain salt it is undoubtedly better and more profitable to salt the sheep regularly.

Sheep are kept on the summer range as long as the weather permits. Ranchmen learn by experience to leave the summer ranges before fall snows pen their sheep in. The winter ranges are located near the corral and sheds where the hay is stored. Where the snowfall is heavy there is danger of the sheep becoming surrounded by the snow and so hay must be at hand to prevent disaster. Sheep can generally be kept with very little hap, it being most needed when the snow crusts over.

The long grass in the dry mountainous countries seems to cure almost as well without cutting as when cut, and the sheep are able to use this to very good advantage unless the snow keeps them from it. These winter ranges must be protected during the summer so that the grass will get long.

Water is not necessary on the winter range as the sheep simply eat some snow each day. The herders, too, use the snow for water by melting it in kettles.

The kind of sheep kept are usually crossbreds, being something as near the general purpose type as can be gotten. Both coarse and fine-wooled bucks are kept and as certain flocks begin to run too fine, coarse bucks are used, and vice versa.

Lambs are weaned at ages from three to six months. Weaning simply consists in removing the lambs from the hearing of the ewes, and unless the lambs are very young neither flock will need further attention. If, however, the lambs are quite young, some ewes will have to be milked out in order to keep the ewes' udders from spoiling.

In Montana and Wyoming the bucks are turned in with the ewes about December 1 and remain with them about one month. This makes the ewes lamb during the month of May. The number of ewes that should run with one buck varies in the minds of different breeders, but the average is about fifty.

Sheep are run through the summer on pasture, and some lambs are fed on the ranch, and some are sent into the markets—from August to December—without feeding. These little fellows come on the market too thin for killing and are classed as "feeders." They go out to farmers and are "finished." These lambs are generally shorn in the spring by the farmer and finished on corn or later on grass. They have been in the past few years—up, in fact, until 1907—a very good proposition from the money standpoint.

Lambs kept on the range during the winter are fed very largely on alfalfa. Very little grain is fed.

Ewe lambs are saved to fill the places left by old ewes that have served their years of service and are sent in each year in large numbers to the markets.

The entire business is one presenting all the intricacies of the highest form of commercial production and one that requires a strong, keen man at the head of it if it is to show profits. No occupation is so ennobling, none more healthful, and few more profitable than well conducted sheep ranching.

SOME FACTS CONCERNING LARGE YORKSHIRE SWINE

Ralph A. Postle

Large Yorkshire swine in the United States have rapidly come into prominence within the last decade. Previous to this time they were rather few in numbers and comparatively unknown in some sections of this country, notably the corn belt. The attention of the hog breeders and feeders was almost wholly turned toward the "lard hog" interests. This was because the greater demand then was for hogs of this type, and in order to meet these demands breeds of "lard type" hogs were developed.

But market demands have changed. They no longer call for the hog loaded with fat, but for one with less lard and more lean and one with more palatable flesh.

For fulfilling this demand the Large Yorkshire is admirably suited from the standpoint of the producer, the packer and the consumer. The packer studies the demands of the consumer and tries to cater to their tastes so far as that is practical. The producer, on the other hand, must deliver the goods called for by the packer.

How this breed of swine is regarded by the packer is shown by the following statement by Mr. J. J. Ferguson, of one of the large packing concerns of Chicago . He says: "I am satisfied it will pay hog raisers everywhere not producing pure bred animals, but market hogs only, to introduce some 'bacon type' blood into their herds. It is a well known fact that where corn has been fed continuously for generations swine have become deficient in bone and muscle and lacking in ability to yield a reasonably large proportion of edible, juicy, lean meat in their carcasses. In such cases experiments already tried have demonstrated conclusively that it will pay to use 'bacon type' sires for one or two crosses, strong in bone, muscle and stamina." He further declares that "the claim of the champions of the Large Yorkshire that he is the bacon type par excellence of this country cannot be disputed."

Having considered this type and breed from the packers' side of the question, let us turn our attention to the Large Yorkshire from the standpoint in which we are most interested, that of the producer. There are several reasons why this breed of swine closely approaches the ideal hog.

1. Large Yorkshires supply the best quality of pork. This statement is justified because they produce the kind of pork the packers want, the kind that outsells other kinds all the year through. It is the class of pork that the public is clamoring for. The packers realize this, because some of the larger concerns have distributed car loads of pure bred Large Yorkshire boars to the producers. They also offer a premium of 25 cents per hundred for cross bred Yorkshires in order to get this class of pork.

2. Large Yorkshires are very prolific. Sows of this breed produce from ten to twelve pigs each litter and two litters a year through a long period of years. They not only produce a large number of pigs, but raise them. If you can have a sow that will raise you as many pigs a year as two ordinary sows, is this not a decided advantage? Is it not a business proposition? Many authentic examples are cited where Yorkshire sows raised litters averaging from ten to twelve pigs to selling age twice a year. This means that

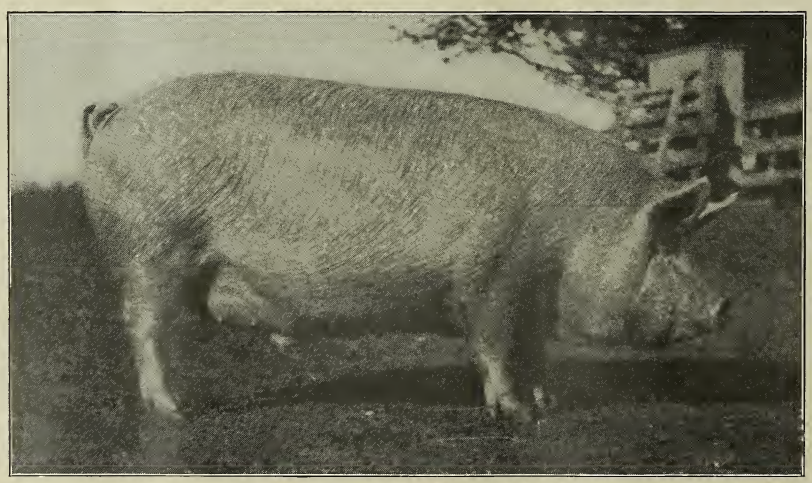
you can produce hogs at a decided advantage over the ordinary competitor.

3. Large Yorkshire sows are superior mothers. They have a gentle, quiet disposition and can be easily cared for when the pigs are young. They are muscular and therefore active, and get around among the litter without doing damage. They remain active all their life and never have to be disposed of on account of being clumsy. The sows of this breed have long been noted for their milk producing qualities and the manner in which they raise their large litters.

4. Large Yorkshires are ready for market at an early age. The best weight for this type of hogs at time of slaughter ranges from 200 to 250 pounds. This weight is easily obtained at from six to eight months. Some people have the idea that because a Yorkshire will take on weight until he is three to four years of age that the breed is slow maturing. This is not the case. Large Yorkshire pigs will equal the weight at six months that pigs of any other breed will at the same age. They will also put on a pound of flesh as cheaply as any other breed. This has been demonstrated by experiments on the cost of production within the last eight years conducted at the Minnesota, Wisconsin, Iowa and Michigan Experiment Stations. In these experiments, some running as long as three years and embracing six different breeds, the Large Yorkshire stood first, proving that they can be produced as economically as any breed.

5. Large Yorkshires are rugged and hardy. They have been bred in nearly every country of the world under varying conditions of climate and feed and have almost without exception given good results. This shows that they possess strong, rugged constitutions. They have good, strong bone to carry their heavy weights.

To sum up what has been stated, Large Yorkshires have many qualities to recommend them as an ideal packers' hog, and they more nearly approach the ideal from the breeders' standpoint.



LARGE YORKSHIRE BARROW No. 88

Bred and Exhibited by the Ohio State University—first prize at 1905 International

JONES AND SMITH MEET AT THE LOCAL FARMERS' CLUB

Jones and Smith meet at the farmers' club of that neighborhood. Smith is a member and regular attendant. Jones holds that such organizations are useless, seldom attending the meetings. However, he is a prominent member of the local political club and frequently speaks in public. Now that he has happened to be at this meeting, he at once assumes a prominent part, arguing and exposing his erroneous ideas which are promptly refuted by Smith.

Early in the exercises a paper was read on the subject of improved live stock which became the topic of the first attack by Jones. "The so-called improved live stock," said he, "may do for some farmers, but for me give me the old breeds. In hogs they raise larger litters and are stronger and better in many ways; the modern draft horse is altogether too clumsy, too much like an ox, and when it comes to sheep and cattle I would not give my good, hardy old stock for all the newfangled crosses. These statements were promptly confuted by Smith: "Why! Is it possible that all the skill and patience that has gone to establish our improved breeds has been of no avail, and that now after many decades we have nothing better than at first?" "Yes," replied Jones, "I think so, and more than that the instruction in such matters is the work of a set of mere theorists. The State of Ohio has recently sunk $100,000 in buildings which are to be devoted to such matters. It would have been far better to have saved this sum, and let the farmers do their own stock judging, etc." In reply, Smith dwelt upon the great benefit to be derived from live stock improvement and, alluding to state buildings, called attention to the fact that an improvement in value of one-half cent per head on the stock of the state would more than repay this large sum. He also mentioned the spacious buildings on the state fair grounds and alluded to the millions of dollars invested in the thousands of farms where improved live stock is profitably kept.

The discussion of the above subject closed, a member talked upon farm implements. Recounting the imperfections of those which were used in early days, the speaker dwelt upon the efficiency and value of those of the present. He told how much more the individual may accomplish now than in former years, and the many disadvantages under which the pioneer farmer labored. When he had concluded, Jones again broke forth: "Improved implements have been a curse to agriculture. They have enabled some sections to produce so extensively that our markets are overstocked and prices depreciated accordingly. By them the demand for labor has been so lessened that the farm laborer has been robbed of his living. To farm with these costly contrivances requires an investment entirely incommensurate with the means of the ordinary farmer. Driven to it by existing conditions one is compelled to have such implements, but if within my power I should do away with many of them at least and return to the good old way by which all things were done well and without such outlay." To this Smith replied: "Does it not stand as a matter of reason that any invention which lightens labor is a blessing to mankind and should be employed? True, many inventians do deprive some particular class of their employment, but there is

always some other place for them. It is a fact that labor is scarcer now than in former years and that laborers are well paid for all they do. Furthermore, they are so organized, in many instances, that they can dictate what shall be paid them."

The next subject was one that relates to public conveniences, including the telephone, rural mail delivery, the proposed parcels post, etc. The speaker told of the benefits and satisfaction of all these, urging action with reference to the latter. He spoke of the saving of human life by the use of the telephone and how profitable it is to keep one's self informed daily and without loss of time in regard to markets, the affairs of the world, etc. "All this sounds very well," said Jones, "but we should not fail to count the cost. Whether to ourselves or to the government it comes off us in the end. The way things are going now one's taxes and living expenses will soon become so great that he will not be able to subsist. With so many useless conveniences we are becoming lazy; soon we shall require a machine of some kind to feed us, and later some mechanism to enable us to build fires cold mornings before we get out of bed; then we shall probably want some production to assist us in breathing." These remarks were so ludicrous that the audience showed general amusement and no reply was necessary.

Then came some deductions as to the advantages in buying at a distance as compared with the local town. Many points of interest were brought out showing the great saving that may be thus effected. It was shown that in some instances a saving of fifty per cent has been made and that in nearly all purchases an economy of fifteen to twenty-five per cent has been realized. Members reported great saving on farm implements, groceries, hardware, vehicles, binder twine, clothing, etc. It was also shown that the local man has resorted to unfair and intimidating methods in his efforts to retain his trade and receive unreasonable prices for his goods. The convenience and economy of time by mail buying were brought out, and the whole subject was carefully reviewed. Jones, who is an exclusive home buyer, was not long in taking issue on the subject. Said he: "Yes, send your money away and rob the dealer of an honest living. It is he who maintains our town and this in turn keeps up a market for our products. More than that, the value of our farms as an investment depends largely upon their proximity to a prosperous town. Send away and get shoddy qualities, pay cash in advance and blindly disregard your own interests. The local man is your friend in the time of trouble; he lets you have what you need and waits for the money; he helps pay taxes, keep up churches and is a useful citizen in general." "But hold," said Smith, "is it not a fact that the home dealer sends to the cities the money which you pay him, less his profit, and does not this profit come off you? Would you not rather have that amount in your pocket than in his, and so far as keeping up public affairs is concerned, would you not rather make your own investments than give the dealer the money for that purpose? And as to the home market, is it not manipulated in the interest of the same class of men, and have we not the ability to forward our products the same way in which they do, thus often saving their profit. The local man may be a very good fellow, and we should certainly patronize him when he offers the most for

our money, but in all other instances it is our own loss if we do not deal elsewhere." As usual Jones' argument fell as a flimsy rag and another subject was soon brought up for consideration.

This, the last topic of the meeting, was in regard to agricultural education. It is needless to say that the members of such a club were generally favorable to the same. Jones, however, was prompt in his dissertation. "This book farmin'," said he, "is all a farce. My father made more in one year than we do in two, and farm colleges, etc., were unknown then. It all sounds very well when discussed by some slick-tongued professor, or written up by some fellow who would not know how to set a hen or turn a grindstone, but when it comes to practice it is quite another thing. The high-sounding theories do not work out well then, and after all the so-called educated farmer has to rely on common experience for all that is really worth knowing. If we had a little less education and more work it would be better. The man who sits around reading will not do much, you may depend on that. Go into almost any community and you can locate the educated farmer by his dilapidated surroundings. Years of practice, together with what I learned from those now gone, are good enough for me." Smith was not long in replying: "If our fathers could have had the benefit of some education along the line of their vocation, we should today have far more favorable conditions under which to labor. It is to be regretted that they are unable to foresee the results of careless methods. For instance, they did not know the limitations of the soil, so we must now accept it as it is and by skillful methods endeavor, so far as possible, to restore the original fertility. The virgin soil yielded abundantly with little attention, but it is different now. To see the results of the unwise managament of past years we have but to look upon the gullied hills and denuded fields of many sections of our state. Not only with reference to the soil, but in many ways we may see the ill effects of early-day farming and learn to appreciate the value of an agricultural education. It is to be regretted that even now in a great state like Ohio less than four per cent of those who are coming into possession of farms are receiving any special training, but it is a happy fact that our farm papers and books are available to all and capable of exerting a very wide influence for reform. It is also gratifying to know that in all we have in the United States about sixty-five agricultural colleges with about 11,000 students. Would that this number could be doubled every year. If such were true we should soon have a far better country, agriculturally. All lines of our vocation would experience changes that would surprise those who know nothing of the value of proper training. Live stock, crops, rotation, general management, etc., would soon be on a far more remunerative basis and our affairs generally would be far more profitable."

When the meeting closed it was evident that Jones had not profited by the many good points that had been presented. Does the reader think we have overdrawn the shortcomings of this man, or does he recall parallel instances in his own experience? Is it not a fact that we may find in almost any community men who, like Jones, are so constituted as to fail in recognizing the many benefits that come from a proper conception of modern conditions.

H. E. Tweed.

OHIO CORN SHOW

Geo. E. Simmons, '09

"First Annual Corn Show to be held at O. S. U., Columbus, Ohio, November 23, 24, 25, 1908."

This was the heading of the announcement with which the Ohio Corn Improvement Association made its first bow to the farmers and corn dealers of the State of Ohio. Then followed a list of the premiums to be awarded to the successful contestants in the various classes. These premiums consisted of loving cups, farm implements, seeds and cash prizes. Fourteen classes were open in which entries could be made. The total value of the premiums aside from the loving cups, amounted to almost a thousand dollars.

A word in regard to this Association. The Association was organized in January, 1908. Its object is to increase the corn production of the state by helping the farmer to raise, not a greater acreage, but a better grade of corn; not new varieties, but standard home varieties selected with intelligence and care.

To accomplish this end the scope of the show was such as to call attention to the individuality of the seed ears, quality of the product and the mode of cultivation. Competition along these lines was engaged in by youth and age. The youngest in early teens, and several veteran corn growers past three score and ten.

The great interest in corn was shown not only by the thousand exhibits made, but also by the throng of men and women who attended the show. Three large rooms in Townshend Hall were open for the display, with educational exhibits in the corridors.

Ohio never assembled a more interesting and progressive citizenship than passed in and out at this show. These men showed the spirit of progress when they entered the class in corn judging. Young men who held diplomas from some of our best colleges sat with gray-bearded men who had grown corn for more than a half century. This class, conducted by the University, was addressed by men of experience from both the Ohio and the United States Agricultural Experiment Stations. Further work was done in seed selection under departmental instructors.

The interest manifested portends to the continuation of Ohio in the foremost ranks of the corn-growing states. She now heads the list in yield per acre for the year 1908.

The prize corn was not all grown in one locality, neither was it all grown in sections noted for the great natural fertility of the soil. We conclude from this that it takes not soil alone, but brains to grow corn. The samples shown represented the life work of many of these men. Such expressions as, "I have grown this corn for ten, twenty or forty years, and "I have been selecting corn with this type in view for years," were common among those who carried away prizes, thus showing the great gain brought about by care in seed selection. Many take the precaution to furnish their neighbors seed corn so as to avoid polonizing their corn from fields of inferior quality.

Particular mention should be made of the trophy cups given to be contested for annually. The National Stockman and Farmer, loving cup, for

the best ten-ear exhibit; The Ohio Farmer, trophy cup, for the best county exhibit; the farm management trophy cup, given by Mr. Goddard, of the Ohio Experiment Station, for the best record of management in raising a field of corn, and the Agricultural College trophy cup, donated by the Faculty of the Argiculture College, for the best exhibit by three or more pupils representing a high school, made a display worthy of the donors and highly appreciated by the visitors. Next year to the above list will be added a trophy cup contributed by the American Agriculturalist, to be competed for by the boys.

Interesting programs were rendered each night of the session. On Monday night two addresses were given. Mr. C. P. Hartley, of the Bureau of Plant Industry, Washington, D. C., who acted as judge of the corn show, gave an illustrated lecture on "Corn Production." Prof. W. J. Spillman, office Farm Management, Washington, D. C., next discussed "The Law of Heredity and Its Practical Application to the Breeding of Plants and Animals." The address brought out many questions, the replys to which showed a thorough knoweldge of the subject and it soon became evident to the audience that Mr. Spillman was an advanced thinker on the subject under discussion. The lecture was illustrated, showing many things that could be accomplished even with the present limited knowledge of natural laws.

On Tuesday night Mr. H. H. Johnson, Bureau of Statistics, Washington, D. C., read a paper on "A Comparative Study of the Conditions and the Production of Corn in Various Sections of the Corn Belt." This was an important subject clearly and concisely presented. He was followed by Mr. A. D. Shamel, Bureau of Plant Industry, Washington, D. C., on the subject, "The Art of Corn Raising." This subject was presented in a unique way, characteristic of Mr. Shamel, who is very enthusiastic in his work along experimental lines.

At the opening of this session the list of awards was read. The trophies were awarded as follows:

National Stockman and Farmer Loving Cup—G. O. Vanorsdall, Jeffersonville.

Farm Management Trophy Cup—W. M. Cook, Camden.

Ohio Farmer Trophy Cup—Licking County.

Agricultural College Trophy Cup—New Holland High School.

Last, but not least highly appreciated, came the "Corn Dinner." This surely was a feast of good things for both body and mind and was a fitting climax to the eventful days. Seated about the long tables arranged in the upper corridors of Townshend Hall were two hundred guests. Fully half that number were unable to secure seats at the table. The hall was gaily decorated with white and yellow bunting, while corn shocks and pumpkins added to the novelty of the decorations. The seat of honor was a high-backed arm chair, made entirely of corn stalks and husks, with a cushion of corn silks. This chair was made by and presented to the Association by Mr. Eli Gabriel, of Milford Center, and was occupied by Governor Harris. This chair will be a part of the Ohio exhibit at the National Corn Show.

After all had done justice to the products of King Corn, the toastmaster, Mr. A. P. Sandles, was introduced, and presided in his own happy way that

(Continued on page 25.)

THE
AGRICULTURAL STUDENT

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DECEMBER

EDITORIALS

It has been our privilege during the last month to visit several country homes in the central part of the state. Many short trips have been made in the class in advanced judging and one trip in the class of rural economics. The hospitality that was extended us was in all cases of the warmest kind. For instance, on a trip to the farm of Mr. Baum, a breeder of Shorthorns, about ten miles south of Columbus, a whole class of us, after a cold day's work, were taken into the house and made warm and happy by a table full of delicious hot things to eat.

If people in the city could only visit some of these homes and see the carefree, happy home-loving people they would find there, many of them would envy the condition of these people and become quite dissatisfied with their own way of living.

Many of the homes visited are fitted with steam heat, and in fact with all the luxuries of the citv home. With a street car or trolley line but a short distance away, with mail every morning, these people have every reason to be satisfied with their lot in life.

Before another issue of this paper appears there will be with us hundreds —we hope at least—of short winter course students. More and more students come each year as the course advertises itself and people become acquainted with just how it works.

The large number of these students means a vast amount of work for the force of instructors for a short time in the winter, but it is work that they are very glad to do, because the work of teaching men fresh from the farm is interesting in the various problems with which these farmers have been confronted and which the professors must work out in theory. It is a case of the practical farmers' problems on one side and the theories of men who have not the time to work out any of their ideas very extensively, on the other. Often one wins out and sometimes the other. The scientists are more often right than the farmers. The conflict, if it may be called one, is however, a great benefit to both sides and of large benefit to agriculture in general. So the short winter course will grow and become larger and larger each year. Men coming in find themselves benefitted not so much by the actual facts that they may store away as by the knowledge they gain of the working of the great business of teaching agriculture, and by the fact that when they leave they have learned something of the ideas of the big agricultural men of the state, and when they want anything along an agricultural line they know how and where to get it. So we urge any who are doubtful to decide to take up the work next winter to send in their names and register. It will be one move in your life that you will never regret.

NEWS NOTES

F. N. Fagan was at the University over Thanksgiving.

W. A. Martin, '05; F. L. Allen, '05; O. A. Allen, ex-'09; G. H. Brock, ex-'09; Homer George, Orville Johnson, '08; T. P. White, '07, and Louis Risser, '08, are a few of the alumni and ex-students who visited the University during the Corn Show.

The following men were named by Professor Marshall as members of the judging team: Henry Dilatush, S. S. Hart, John H. Munger, Robert Wilbur and Charles E. Snyder, with W. L. Elser as alternate.

Robert Wilbur, who was named as a member of the live stock judging team, had the misfortune of having to undergo an operation at Grant Hospital. He, of course, was unable to participate in the judging contest, and W. L. Elser took his place.

The judging team stopped on their way to Chicago at Ft. Wayne to study the stock at Brookside Farm.

Harry Evans and Thaddeus Parks have been named by Professor Shoesmith to accompany him to Omaha to the National Corn Show. They will take part in the preliminary judging and help to arrange the exhibits.

In the annual Ag. vs. Vet. football game the Ag's suffered defeat by the score of 5 to 0. It was a hard-fought game and the Vet's scored a touchdown on a blocked quarterback kick. Some Vet. must have carried the lucky horseshoe.

Professor Graham left the University on the 24th for a speaking trip through Greene County. Professor Graham has made himself very welcome among the farmers wherever he goes.

Rudo Fromme, '05, has been promoted in the Department of Forestry. He now has charge of all office work in the West. Mr. Fromme's advance has been rapid but well earned. His location is San Francisco. He was at the University for a short time on the 20th of November.

Professor Marshall judged the Red Polls at the International.

The dairy team has been selected. The men named are M. D. Moore, G. C. Long and J. D. Hervey.

B. L. Thompson, class of 1908, has been an instructor in Dairying and Animal Husbandry at the Dunn Company Agricultural School, Menominee, Mich., since the first of November.

The College of Agriculture took fourteen head of steers and several head of hogs, Yorkshires and Berkshires, to the International. A list of winnings will be given in the next issue.

The State Grange meets in this city the week of December 8. The Uni-

versity Grange is making preparations to aid the delegates in every way possible.

Editor of the Agricultural Student:

The catalog of the Winter Course in Darying has just come from the press and presents something quite unique, in the adoption of a course different from that of any other college in the United States.

Instead of having a regular winter course in Dairying, beginning in November, as has been done in previous years, the course will begin January 11th, the same date as the Farmers' Short Course. There will be a ten-weeks' course in Farm Dairying, the Handling of Milk, and the Manufacture of Dairy Products.

Upon the completion of this ten-weeks' course, and after two years of approved practical experience preceding the course, there will be granted a Dairy certificate.

Five special two-weeks' courses have been arranged for those persons who desire to specialize in one or more subjects in Dairying. In these courses two weeks will be devoted to each of the following subjects: Milk and Cream Testing, Dairy Mechanics, Farm Dairying and City Milk Supply, Butter Making, Cheese Making, and Ice Cream Making.

The courses will be largely a series of lectures and laboratory work, and might be considered similar to a Farmers' Institute, the student taking only those lectures and the work in which he is especially interested. This will give the busy man an opportunity to devote his entire time to his particular line of work.

For these special lectures the Department has secured the services of Professor Lord of the Metallurgy Department, Professor Bradford of the Engineering Department, Professor Morrey, who will lecture on Bacteriology, and the various professors and instructors of the Agricultural College. The following men outside the University have been secured: J. D. Nichols, Dairy and Food Commissioner Dunlap, L. P. Bailey, Tom Dempsey, Kimball Sedgwick, George Scott, Bert Smith, J. O. Winters, Timothy Mojonnier, H. J. Russell, Sparahawk, Rutan, Miller, and others.

Persons interested in the above courses should inquire of Oscar Erf, Professor of Dairying, O. S. U., for information.

The annual report of the Ohio State Dairymen's Association has also come from the press. It contains all the proceedings of last year's meeting and a complete list of the creameries and cheese factories of Ohio. This may be obtained by becoming a member of the Association, or calling at the office of Professor Erf, Dairy Department.

OHIO CORN SHOW.

(Concluded from page 21.)

makes him a prince of toastmasters. The toasts were as follows:

"Them Corns" — Mr. Joseph E. Wing.

"A Man's Personality in His Corn" —Mr. O. E. Bradfute.

"A New Agriculture"—Mr. W. J. Spillman.

"What Is There In It?"—Mr. T. D. Harman.

"The Boy With the Hoe"—Mr. Andrew L. Harris.

"The Good in Corn"—Mr. H. M. Brown.

Corn Agnosticism—Mr. G. H. Williams.

"Boys"—Mr. C. W. Burkett.

To attempt to describe this feast of wit, humor, repartee, serious thought and goodfellowship would be futile.

A large number of the individual exhibits will be forwarded to Omaha, Neb., to be shown soon. The Ohio Association will also show an Ohio display aside from these. Mr. Sprengle, of Washington Court House, will have charge of the exhibit for the Association.

Professor Shoesmith, to whose untiring efforts the success of this, the first annual corn show is largely due, will also represent the Association.

Two student assistant corn judges, Mr. Evans and Mr. Parks, have been selected from the O. S. U. to assist the judges of the National in their work. Mr. Livingston will also attend as a representative of several farm papers.

The hope is that Ohio may carry home many trophies from the National show at Ohaha. She certainly will get her share. Regardless of her success at the National she may always well be proud of her First Annual Corn Show.

NEAR UNIVERSITY SPRING

AT OTHER COLLEGES

The Agronomy Hall is nearing completion. When finished it will partially relieve the congestion of classes and will provide better laboratory facilities. —The Oregon Countryman.

The Horticultural Department of the college purchased a three-year-old pair of Percherons during fair week, from E. K. Koyner, of Basic City, Va. —The N. C. Student Farmer.

Professor Beattie, assisted by students of the Botany Department, has nearly completed some experiments in spraying for apple scab. We expect to publish some results in our next issue.—The Washington Agriculturist.

The Correspondence Course Bulletin is ready for distribution and may be obtained by addressing Prof. T. I. Mairs. Thirty-two different courses are offered, covering all phases of agriculture. Interest in these courses has never been so great as at present.—The Penn State Farmer.

The annual smoker of the Agricultural Society was held in the potting room of the "Hort" building, October 24. C. P. Norgard, '06, and J. Clyde Marquis, the new college editor, spoke. A large number of fellows were out and the affair was one of the most enjoyable "mixers" ever given by the society.—The Student Farmer, Wisconsin.